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THE CRANE-FLIES (TIPULIDAE) OF NEW ENGLAND: FIRST SUPPLEMENTARY LIST.

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THE appearance in press of Mr. C. W. Johnson's monumental work on the Diptera of New England (Occas. Papers Boston Soc. Nat. Hist., vol. 7, no. 15, p. 1-326, 1925) has proved a great incentive to further detailed work on this fauna. In this paper Mr. Johnson lists 1 Tanyderid, 3 Ptychopterids and 9 Anisopodids, in addition to the main list of 264 species of Tipulids. During the season of 1925, the writer collected intensively in western Massachusetts, in Area 23 (the Berkshire Area) and Area 24 (the Connecticut River Valley Area). As a result of this detailed collecting with certain definite groups in view, 13 species of Tipulidae may now be added to the basic list. In the present small paper the writer wishes to record these additions, discuss briefly the collections made at Lake May in the Berkshires, and describe two novelties that are included in the list of additions.

ADDITIONS TO THE TIPULIDAE OF NEW ENGLAND.

265. *Dicranomyia diversa* O. S.

Whately Glen, Franklin Co., May 22, 1925; Lake May, Berkshire Co., June 13, 1925.

266. *D. profunda*, sp. n.

Lake May, Berkshire Co., June 20-30, 1925; Ellsworth, Hancock Co., Maine, July 30, 1913 (*C. J. Stanwood*).

267. *D. sphagnicola*, sp. n.

Lake May, Berkshire Co., July 1, 1925.

268. *Gonomyia (Ptilostena) mathesoni* Alex.

Whately Glen, Franklin Co., June 7, 1925; Lake May, Berkshire Co., June 26, 1925.

269. *G. (Gonomyia) bidentata* Alex. (Occas. Papers Mus. Zoöl., Univ. Michigan, 127: 3-4, 1922).

Orient Springs, Hampshire Co., July 24, 1925; Mt. Toby, Franklin Co., altitude 600-700 feet, July 28, 1925.

The occurrence of this fly in Massachusetts was quite unexpected since it was known hitherto only from the Clifty Ravine, at Hanover, in southern Indiana.

270. *G. (G.) noveboracensis* Alex.

Whately Glen, Franklin Co., May 22, 1925.

271. *Molophilus (Molophilus) quadrispinosus* Alex.

Whately Glen, Franklin Co., June 7, 1925.

272. *Ormosia bilineata* Dietz.

Whately Glen, Franklin Co., May 22, 1925; Orient Springs, Hampshire Co., June 3, 1925.

273. *Adelphomyia pleuralis* Dietz (Trans. Amer. Ent. Soc., 47: 251-252, 1921).

Orient Springs, Hampshire Co., July 9-24, 1925; Mt. Toby, Franklin Co., altitude 700 feet, July 28, 1925.

274. *Limnophila albipes* Leond. (Ent. News, 24: 248-249, fig., 1913).

Orient Springs, Hampshire Co., July 24, 1925.

275. *L. laricicola* Alex.

Lake May, Berkshire Co., June 12, 1925; in sphagnum bog. This very rare fly was hitherto known only from the badly damaged type male, taken in the southern Adirondacks of New York under exactly similar conditions.

276. *Nephrotoma brevioricornis* (Doane).

Lake May, Berkshire Co., June 23, 1925.

277. *Tipula aprilina* Alex.

Dwight, Hampshire Co., May 31, 1925; in open swamp.

As representative of the June fauna of the Berkshires, the conditions obtaining at Lake May are here described:

LAKE MAY (GOOSE POND), BERKSHIRE CO., MASSACHUSETTS.

The writer and Mrs. Alexander spent the three weeks between June 11 and July 2, 1925, at Lake May in the Berkshires, not far from East Lee. The Tipulid fauna was found to be richly developed and several additions to the Massachusetts list were secured. In the accompanying list, the various specimens were taken in the woods in the vicinity of the lake except where more specific localities are described. The altitude of Lake May is 1500 feet and the material was secured at this approximate altitude. Two localities, discussed in the text as "Bog" and "Stream" should be explained in greater detail.

Stream.—A small stream that arises in cold springs north of the lake offers exceptionally fine collecting where it traverses the Bassett property, about one-half mile from the lake. Here the stream forms a series of small cascades and rapids over densely moss-covered rocks, moderately shaded by hemlock, yellow and white birch, butternut and willow. At this season of the year the herbage is chiefly of interrupted and sensitive ferns, seedling *Impatiens* and scattered remnants of the spring flora, as *Tiarella*, *Smilacina* and others. The crane-flies were mostly swept from this rank herbage.

Bog.—Near the headwaters of the above stream, on the higher northwest banks of the lake is a small boggy area that is fed by cold springs. There is much sphagnum with some sun-dew but no larch or pitcher-plants. Scattered hummocks of dry earth support a dense growth of hemlock, red maple, etc., with dense clusters of mountain laurel that is in full flower at this season.

The elevated hummocks are carpeted with dense beds of dwarf cornel, gold-thread, etc., with scattered remnants of other spring plants, as *Clintonia*, star-flower and others. In the boggy areas are many sensitive, interrupted and other ferns and several species of *Carex*. Most of the crane-flies designated under this caption were swept from this hummock vegetation.

- Ptychoptera rufocincta* O. S. Stream, June 21.
Bittacomorphella jonesi (Johns.). Stream, June 26.
Rhipidia (*Rhipidia*) *maculata* Meig. Stream, June 22-30.
Dicranomyia diversa O. S. Stream, June 13.
D. globithorax O. S. Stream, June 17.
D. halterata O. S. Bog, June 12-30.
D. immodesta O. S. June 13-30.
D. liberta O. S. June 16-30.
D. longipennis (Schumm.). Bog, June 17.
D. morioides O. S. Common along stream, June 17-30.
D. profunda, sp. n. Bog, June 20-30.
D. pubipennis O. S. Stream, June 13-30.
D. sphagnicola, sp. n. Bog, July 1.
Limonia indigena (O. S.). Stream, June 21-30.
L. solitaria (O. S.). Stream and woods, June 21-30.
Elephantomyia westwoodi O. S. Woods, June 18-July 1.
Rhabdomastix (*Sacandaga*) *flava* (Alex.). Wood-road, June 26.
Gonomyia (*Ptilostena*) *blanda* O. S. June 21-30.
G. (P.) mathesoni Alex. Mountain Mill Stream, June 26.
G. (Gonomyia) probably *florens* Alex. Stream, one ♀, June 23.
G. (G.) subcinerea O. S. Stream, June 22-30.
Helobia hybrida (Meig.). Stream, June 22-30.
Molophilus cramptoni Alex. Abundant, stream, June 22-July 1.
M. hirtipennis (O. S.). Swampy area near east end of lake, June 12.
M. pubipennis (O. S.). Stream, June 15-30; common, almost all males in bog, July 1, 1925.
Erioptera chrysocoma O. S. Bog, June 12.
E. septemtrionis O. S. Bog, June 18.
E. stigmatica O. S. Stream, June 26-30.
Ormosia deviata Dietz. Bog, July 1.
O. meigenii (O. S.). Stream, June 13-20.
Ulolompha pilosella O. S. Stream, June 17.
Pilaria quadrata (O. S.). Woods, June 14.
P. stanwoodae (Alex.). Bog, June 13-July 1.
Pseudolimnophila inornata (O. S.). Bog, June 17.
P. noveboracensis (Alex.). Bog, July 1.
P. toxoneura (O. S.). June 12-30.
Epiphragma fascipennis (Say). June 12-July 1.
Limnophila (*Dicranophragma*) *fuscovaria* O. S. Bog, abundant, June 12-July 1.
L. (Prionolabis) munda O. S. Bog, June 13.
L. (P.) rufibasis O. S. Woods, stream, June 12-20.

- L. (Ephelia) johnsoni* Alex. One ♂, stream, June 30.
L. (Phylidorea) adusta O. S. Woods, June 16.
L. (P.) lutea Doane. Swampy area near east end of lake, June 12.
L. areolata O. S. Common and very characteristic, woods and bogs, June 12–July 1.
L. brevifurca O. S. Bog, June 12.
L. laricicola Alex. Bog, June 12.
L. lenta O. S. Stream, June 13–26.
L. subcostata Alex. Stream, June 13.
L. sylvia Alex. Stream, June 15.
Adelphomyia minuta Alex. Bog, June 12.
Tricyphona calcar (O. S.). June 12–16.
T. inconstans (O. S.). June 12–30.
T. vernalis (O. S.). Stream, abundant, June 15–30.
Rhaphidolabina flaveola (O. S.). Stream, June 15–25.
Rhaphidolabis (Rhaphidolabis) forceps Alex. Stream, June 13–20.
Phalacrocer a tipulina O. S. Bog, June 12.
Liogma nodicornis (O. S.). Bog, June 12–20.
Dolichopeza americana Ndm. Stream, June 13–20.
Oropeza albipes Johns. Bog and woods, June 12–30.
O. obscura Johns. In out-houses, June 25–July 1.
O. venosa Johns. At spring, June 17–30.
Nephrotoma brevioricornis Doane. Woods, June 23.
N. euceroide s Alex. Stream, June 22.
N. ferruginea (F.). June 12–July 1.
N. lugens (Lw.). Along wood-roads, June 15–20.
N. incurva (Lw.). Stream, June 26.
N. tenuis (Lw.). June 18–30.
N. virescens (Lw.). Woods along lake shore, June 14–16.
Tipula (Trichotipula) oro pe zoides Johns. Bog, June 12.
Tipula (Tipula) angulata Lw. Stream, June 21.
T. apicalis Lw. June 12–July 1. Very common and characteristic. The males swarm in small numbers about 10 to 15 feet above the ground, among the lower limbs of small beech trees. Numerous wings were found in spider webs at intervals along the beech limbs. A few were captured *in copula* resting on the sides of buildings. It seems that the larvae must live in the rather dry soil along the lake shore.
T. bicornis Forbes. June 12–21.
T. cayuga Alex. Stream, June 15–25.
T. collaris Say. Stream, June 15.
T. fuliginosa (Say). In woods, June 17–25, all males.
T. hermannia Alex. Stream and woods, June 15–July 1.
T. iroquois Alex. Stream, June 15.
T. latipennis Lw. Stream, June 30.
T. longiventris Lw. Woods, June 12–25.
T. macrolabis Lw. Woods, June 13–20.
T. monticola Alex. Woods, June 12–23.
T. nobilis (Lw.). Woods, June 12.

- T. parshleyi* Alex. Stream, June 15.
T. senega Alex. Woods, June 12-20.
T. strepens Lw. Stream, June 13-15.
T. submaculata Lw. Stream and woods, June 22-July 1.
T. tephrocephala Lw. Stream and woods, June 13-26.
T. trivittata Say. Woods, June 12-30.
T. valida Lw. Woods, June 12-20.

DESCRIPTION OF NEW SPECIES.

Dicranomyia profunda, sp. n.

General coloration yellow to yellowish brown; antennae dark throughout; halteres short; tips of femora narrowly infuscated; wings with a yellow tinge, the radial cells more infused; vein *Sc*₁ long.

Male.—Length about 5.5 mm.; wing 6.5 mm.

Female.—Length about 6.5 mm.; wing 7.2-7.4 mm.

Rostrum and palpi brown. Antennae short, dark brown, the extreme base of the first segment a trifle paler; flagellar segments short-oval. Head brownish gray; vertex (male) between eyes a little wider than the first scapal segment.

Pronotum and mesonotum yellowish testaceous to light yellowish brown, the surface with a yellow pollen, lighter colored in the female. Pleura concolorous. Halteres short, pale, the knobs a trifle darker. Legs with the coxae and trochanters yellowish; femora yellow, the tips narrowly but conspicuously dark brown; tibiae yellowish testaceous, the tips narrowly and indistinctly darker; tarsal segments brownish yellow, narrowly tipped with dark brown, the terminal segments uniformly dark brown. Wings with a strong yellowish tinge, the costal region more saturated; stigma oval, only slightly more brownish than the ground-color, the two ends darker than the middle; wing-apex in outer ends of radial cells distinctly darkened; in some specimens a spot at origin of *Rs* and narrow seams along cord and outer end of cell 1st *M*₂ infused; veins darker than the ground-color. Venation: *Sc* short, *Sc*₁ ending opposite or a short distance before the origin of *Rs*, *Sc*₂ some distance from its tip, in some cases not evident; *Sc*₂ alone approximately one-half the length of *Rs*; cell 1st *M*₂ relatively elongate, longer than vein *M*₄ beyond it; *m-cu* at fork of *M*.

Abdominal tergites brown, the sternites more yellowish, especially the basal segments. Male hypopygium with the median area of the ninth tergite without setae. Basistyle with the mesal lobe very large and fleshy. Ventral dististyle large and fleshy, two to three times the size of basistyle; rostrum short with two nearly basal spines, these short, stout, straight, their tips acute, placed close together, the rostrum beyond them shorter than the length of a single spine. Dorsal dististyle a strongly curved sickle-shaped hook, gradually narrowed to the apex which is narrowly rounded. Mesal lobe of gonapophyses conspicuous. Ovipositor with the tergal valves slender, only gently upcurved.

Habitat.—Massachusetts, Maine.

Holotype, male, Lake May, Berkshire Co., Massachusetts, altitude 1500 feet, June 30, 1925 (Alexander). *Allotopotype*, female, June 20, 1925. *Paratype*, female, Ellsworth, Hancock Co., Maine, July 30, 1913 (C. J. Stanwood).

By existing keys, the present species would run to *Dicranomyia gracilis* Doane, a very different fly. *Dicranomyia profunda* is told by the narrowly dark-tipped femora and the distinct clouding in the apices of the radial cells of the wings.

Dicranomyia sphagnicola, sp. n.

General coloration brown, the rostrum and antennae black; halteres elongate; wings with a faint brown tinge, the stigma only a little darker; *Sc*₁ long; male hypopygium complicated in structure, spines of the ventral dististyle placed beyond midlength of the rostriform appendage.

Male.—Length about 4.5 mm.; wing 5.5 mm.

Female.—Length about 6 mm.; wing 6.5 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval with relatively short and inconspicuous verticils. Head dark brown, the orbits broadly more grayish; anterior vertex wider than the first scapal segment.

Pronotum dark brown. Mesonotal praescutum with a broad dark-brown median stripe, the lateral stripes paler and ill-defined; lateral margins of praescutum with a sparse yellowish pollen; scutal lobes infuscated; scutellum pale medially, the sides weakly infuscated; postnotum testaceous brown, sparsely pruinose. Pleura pale, sparsely pruinose, the sternopleurite a little darkened. Halteres elongate, dark brown, the extreme base of stem paler. Legs with the coxae and trochanters pale, the fore coxae in some specimens a little more infuscated; remainder of legs dark brown, the tarsi passing into brownish black. Wings with a faint brownish tinge, the stigma only a little darker; veins dark brown. Venation: *Sc* short, *Sc*₁ ending opposite or before the origin of *Rs*, *Sc*₂ some distance from the tip of *Sc*₁, the latter alone longer than the stigma; *Rs* about one-half longer than the outer deflection of *R*₁₊₂; *m-cu* at or before the fork of *M*.

Abdominal tergites dark brown, the basal sternites more yellowish; hypopygium dark. Male hypopygium with the ninth tergite nearly transverse, the lateral angles with scattered setae, the caudal margin on either side of median line with a small circular area set with 6 to 7 long setae, the tips of which are decussate at the median line. Basistyle very complex in structure, the mesal face produced into a slender blackened rod that is slightly expanded at tip, and a stouter lobe that is provided apically with dense tufts of long yellow setae arranged in rows. Ventral dististyle fleshy, the mesal face at base produced into a long, slender rostriform appendage that is dilated on the cephalic face at base; rostral spines two, placed beyond midlength of rostrum, subequal, straight, their tips acute, the spines lying subappressed to the rostrum; remainder of dististyle fleshy, setiferous. Dorsal dististyle a very gently curved chitinized rod that narrows to the long acute tip. Mesal lobes of gonapophyses short and low. Ovipositor with the tergal valves very small, slender, gently upcurved to the acute tips.

Habitat.—Massachusetts.

Holotype, male, Lake May, Berkshire Co., altitude 1500 feet, July 1, 1925 (Alexander). *Allotopotype*, female. *Paratopotypes*, 3 males.

By existing keys, the species runs to *Dicranomyia halterata* O. S., a larger fly with confluent praescutal stripes and a very different male hypopygium. This interesting fly was taken in a sphagnum bog, associated with other characteristic crane-flies that were indicated on a previous page.